Nomads continue to fascinate us. Moving across the grasslands with their animals, their home a tent, nomads evoke freedom. Their world cherishes mobility and the liberty to roam in search of grass and water. Nomads are constantly exposed to the elements of nature—rain, snowstorms, and drought—; they take these events for granted and face them with remarkable equanimity. Values that humankind admires—courage, integrity, generosity—are principles instinctive to nomads. They also have an intimate knowledge of their environment and an amazing ability to handle animals—a skill rare among most people today. Despite these admirable traits, nomads are facing serious threats throughout the world.

Nomads are still found on the Tibetan Plateau and in the Himalaya. Known in the Tibetan language as drakpa, translating as ‘high-pasture people’, there are an estimated two million Tibetan-speaking nomads spread over a vast area. Throughout the Tibetan areas of what is now the People’s Republic of China and in the northern parts of Bhutan, India and Nepal, nomads are an important element in the local economy and society wherever they are found. Yet, our image of Tibetan nomads is often romanticized. Influenced by Hollywood movies, the latest talk by the Dalai Lama, the media campaigns of the Free Tibet movement or Chinese propaganda, a real picture of their lives is missing. Who are these people who earn a livelihood herding yaks? What makes them do what they do? Why are nomads and their way of life so appealing?

Today, as we grapple with iPods, instant messaging and the latest reality television show, Tibetan nomads offer a rare perspective on life. Their world operates on a rhythm completely different from the one to which we are accustomed. Nomads’ lives are finely tuned to the growth of grass, the births of animals and the seasonal movement of their herds. Like many people living close to nature, the nomads have developed a close connection to the land and the livestock that nurture them. For thousands of years they survived by raising animals. However, Tibetan nomads didn’t merely eke out a living; they created a unique nomadic culture and contributed to, and were a part of, a remarkable civilization that was the most powerful empire in Asia over 1,300 years ago.

In spite of this legacy, nomads must now confront many challenges as they adjust to the modernization that is sweeping the steppes of Tibet and the remote valleys of the Himalaya. In some areas where there is little respect for them and limited understanding of their nomadic way of life, they struggle to survive. Yet, the nomads, their worldview and the landscape they move across with their animals - their homes rolled up in bundles and lashed to the backs of yaks - need to be given greater consideration.
Herders of Forty Centuries

People have made use of the Tibetan Plateau and Himalaya for thousands of years. The movement of early hunters, herders, farmers, traders, troops and pilgrims across Central Asia and Tibet laid the foundation for a nomadic way of life that continues today. Knowing a little of this history helps appreciation of the legacy that nomads have inherited. The first people to use the grazing lands were hunters. Archaeological excavations near Qinghai Lake on the northeastern margin of the Tibetan Plateau have found stone tools from hunters’ camps that have been dated to 15,000 years ago. Rock art of a similar age, depicting wild animals and hunting scenes are also encountered at many sites in Western Tibet.

While doing research in northern Tibet, I found a number of sites where prehistoric hunters had camped thousands of years before. The surface of the ground at these camps was littered with remnants of ancient stone tools. Searching for artifacts, I crawled on the ground on my hands and knees, as excited as a little kid looking for arrowheads. To hold these ancient microblades in your hand and realize they may have been used 10,000 years ago, or even earlier, was a profound experience. Suddenly, I was connected to another era and a new dimension of the landscape was revealed. From then on, in addition to scanning the mountains and lake basins through binoculars for wildlife, I started to look at the environment in terms of locations for historic campsites. If you were a hunter roaming this country at the end of the Ice Age, where would you want to camp was a question I started to ask myself. I began to see the landscape the way hunters might have thousands of years ago.

Nomadic pastoralism, the raising of livestock by people who make periodic movements with their animals to different grazing lands, is one of the great advances in the progression of mankind. The exact beginning of Tibetan nomadic pastoralism is not known. There are indications, however, that the raising of livestock may have began over 4,000 years ago. As early as the Chinese Xia dynasty (2205 – 1766 BC) nomadic tribes of the northeastern part of the Tibetan Plateau called the Qiang (a Chinese character for ‘shepherd’), were known for making a fine material of woven wool. Rugs made from the ‘hair of animals’ were recorded as articles of tribute received by the Xia Emperor from the Qiang nomads. During the Shang dynasty (1766-1027 BC), these early Tibetan nomads were renowned for the horses they raised. Pastoralism would have been common by the 3rd century BC when early Mongol nomads, known as the Xiongnu, were active on the margins of the northeastern Tibetan Plateau, interacting with the Qiang tribes.

The development of the Silk Road in the first century B.C. ushered in a period of rapidly expanding trade and an exchange of ideas between Central Asia, China, India and Tibet. Beginning in the 1st Century BC, Buddhism was one of the items carried along the Silk Road from India into Western China. Nomads must have contributed to, and been a part of, much of this trade and interaction. Annals from the Han Dynasty (220 BC-202 AD) indicate that large trade marts had been operating for centuries in the Qinghai Lake region on the northeastern edge of the Tibetan Plateau, with horses highly valued. Luxury saddles were also fashionable among Chinese officials at this time and both Tibet and Mongolia were sources of horses for the Chinese emperors.

The consolidation of power among the Qiang tribes in the period between the Han (206 BC - 220 AD) and Tang (618-907 AD) dynasties led to the formation of nomadic kingdoms of considerable size in the northeastern Tibetan Plateau. One of these was the legendary Women’s Kingdom, located in the mountains south of the headwaters of the Yellow River; this was a kingdom ruled by women. During the Sixteen Kingdoms’ period (301-439 AD), a number of early Tibetan dynasties controlled much of the Silk Road in modern day Gansu and Xinjiang provinces of China for long periods of time. In Western Tibet, the Zhang Zhung Kingdom, centered near Mount Kailash, flourished until it was conquered in 644 AD by the rising Tibetan Empire based in the Yarlung Valley near Lhasa.
During the reign of the Tibetan King, Songsten Gampo (602-650 AD), the Tibetan Empire emerged as a powerful force in Central Asia. Part of the reason for the success of this empire was its ability to mobilize nomads into capable cavalry troops. In the 8th Century, the Tibetan Empire reached its height and, in addition to conquering most of the Tibetan Plateau, it controlled much of the present day Chinese provinces of Gansu and Xinjiang, including important cities on the Silk Road such as Khotan and Dunhuang. Expansion of the Tibetan Empire greatly facilitated contacts with other Central Asian nomadic cultures.

With the beginning of the demise of the Tibetan Empire in the latter half of the 9th Century, other nomadic federations ascended to power and took control of the Silk Road. The Yellow Yugurs, operating out of the Gansu corridor in the late 9th Century interacted with Tibetans in the north, as did the Tanguts who established the Xia Xia dynasty in modern day Ningxia province in the 10th Century. Islam made inroads into the Tibetan frontier in the 10th Century and in the 12th Century tribes of Qocho Uighurs and Qarakhanids controlled much of the Silk Road in what is now Xinjiang Province but had relations with Tibetans. With the rise of the Mongol Empire under Chinggis Khan (Genghis Khan) in the 13th Century, interaction between Mongolian and Tibetan nomads increased with many Mongols settling in Tibetan areas.

The foundation for the rise of all these strong nomad tribal federations, kingdoms and empires was the grazing lands. The rangelands, and the livestock grazed on them, helped create prosperous, pastoral-based cultures. Tibet was rich with animals, wool and butter. Trade prospered and connected people and cultures from the edges of the Chinese empire in the east to the Arab world in the west. The pastoral landscape also assembled nomads accustomed to taking care of animals. This legacy enabled troops on horseback to be organized easily and for cavalry to travel swiftly and conquer far-flung territories.

Animal husbandry on the Tibetan Plateau was greatly influenced by early nomads from Central Asia who brought domesticated sheep, goats and horses with them when they first moved into the region thousands of years ago. The Tibetan yak-hair tent, for example, is similar in design to the goat-hair tents used by nomads in Afghanistan, Iran and Iraq. The yak, however, would have been domesticated on the Tibetan Plateau.

The pastoralism in Tibet is different from that in most other regions of the world where nomads are found. The key distinguishing factors that separate the Tibetan nomadic pastoral region from cultivated agricultural areas are altitude and temperature, in contrast to most other pastoral regions where the key factor is normally the lack of water. Tibetan nomads prosper at altitudes from 3,000 to 5,000 meters in environments generally too cold for crop cultivation. Yet, at these high elevations there is extensive and productive grazing land that provides forage for livestock and can support an estimated two million nomads.

![Nomad women from the Phala region of Tibet.](image)
which their lives depended. This was the foundation on which a vibrant nomadic culture developed.

Today, the Tibetan nomadic pastoral area encompasses a vast landscape, stretching almost 2,500 km from west to east and 1,200 km from north to south. It is one of the largest pastoral areas on earth. Distances measured in kilometers, however, do not adequately define the expanse of the region. A better gauge of the vastness is the time it takes to travel across it. Caravans traveling from Lhasa to Xining, on the northeastern edge of the Tibetan Plateau, would take four months to make the journey. Traders going from Lhasa to Leh in Ladakh required two and a half months.

The area used by nomads includes the high-elevation regions of Bhutan, Nepal and India in the south and extends north across the Tibetan Plateau to the Kunlun and Qilian Mountains in northern Tibet, Qinghai and Gansu Provinces of China. In the east, it begins in the highlands of western Sichuan Province and extends west to the boundary of the Tibetan Autonomous Region of China, also extending into the Ladakh region of northwestern India. In the major river valleys, pastoralism gives way to the growing of crops (see map).

Despite the extent of the Tibetan nomadic pastoral world, all these nomads share many things in common. The landscape is comparable wherever nomads are found. It is a high-elevation rangeland environment where grazing of livestock is the dominant land use. Furthermore the pastoral production practices are similar across the area, although the composition of herds varies. Almost all nomads have a base, usually in a traditional winter area, and make well-established moves with their livestock to seasonal pastures. Yak-hair tents, woven by women, are in common use throughout the region.

All nomads have links with agricultural communities at lower elevations to provide them with grain in exchange for livestock products. And they all raise the same type of animals: yaks, yak-cattle hybrids, sheep, goats and horses. The nomads also share a similar language and culture; across the region, nomads can usually communicate with each other in Tibetan, even though their local dialects differ. Religious and cultural practices are also similar. Finally, all nomads now are confronting and dealing with significant changes to their way of life, brought on, for the most part, by economic development.

### Fields of Grass

The rangelands of the Tibetan Plateau and Himalaya are some of the world’s greatest grazing land ecosystems. This is the heart of Asia. The grazing lands form the headwaters’ environment where many important rivers have their beginnings. Here, the Yellow River, the Yangtze, Mekong, Salween, Brahmaputra, Ganges, Indus, and Sutlej rivers originate. In addition, rivers from the northern edge of the Tibetan Plateau flow into the Tarim Basin and the Gansu Corridor in modern day Xinjiang and Gansu provinces of China, providing precious water for the oasis towns along the old Silk Road. The preservation and management of these river source environments have global implications, as the water from their watersheds will be of increasing importance in the future. Upsetting
the ecological balance in these high-elevation rangelands will have a profound effect on millions of people living downstream. As such, these grazing lands deserve greater attention.

The last notable examples on earth of relatively undisturbed rangeland ecosystems are found here, providing refuge for endangered wildlife such as the wild yak, Tibetan antelope and snow leopard. The Tibetan pastoral area also includes some of the last of the “open range.” It is country where you can still ride a horse for hundreds of miles and never come across a fence.

The White River before it joins the Yellow River, near Hongyuan in Amdo.

The highest elevation grazing lands in the world are found in the Tibetan pastoral area. Most of the grazing land is above 4,000 m; some nomads maintain permanent camps at elevations as high as 5,000 m. Snowstorms are common even in the summer. Across most of the region, it is too cold and arid to support cultivated agriculture. Growing seasons are short and cold. As such, the Tibetan pastoral area is one of the world’s most extreme environments.

Unlike the vast steppes of Eurasia, rugged mountain ranges, deep river valleys and large lake basins dissect the grazing lands on the Tibetan Plateau; this results in a great diversity of topography, climate and vegetation, even in a small geographic area. The rangelands are diverse in structure and composition, varying from the northwest cold deserts to semi-arid steppes and from shrublands to lush alpine meadows of mountains slopes and valleys. They, therefore, display an assortment of plant communities and wildlife species.

Like the rangelands of North America, the grazing lands of the Tibetan Plateau evolved with large grazing animals. Over thousand of years, wildlife such as Tibetan antelope, wild yak, Tibetan wild ass, Tibetan gazelle, blue sheep, argali and different species of deer grazed the rangeland. Small mammals like pikas, voles and marmots exerted an influence on the vegetation and helped create a unique interaction between plants and animals. Predators that preyed on these animals such as bears, wolves, snow leopards, foxes and eagles were an important part of the ecology of the landscape.

Each rangeland type has its own unique assemblage of plants. Vegetation variations define the movements and foraging behavior of both the wildlife and livestock. Although often limited in species richness and productivity, the plants are high in protein content, providing nutritious forage for animals. The topography of the landscape, location of water and even wind patterns also dictate habitats for wildlife and favored grazing areas for nomads’ livestock.

The long, slender seed heads of grass glistened with morning dew as I lay on the ground watching the graceful Tibetan gazelle in front of me. Unaware of my presence, they continued to pick out delicate little forbs to eat, avoiding the taller, coarser grass. From this vantage point on the ground, I could also focus on the plants in front of me. Although the purple feather grass, with its long, hair-like attachments to the seeds that blew gently in the wind like banners, appeared to dominate the vegetation, there was actually a rich medley of plants. Slender, erect leaves of a sedge – a grass-like plant – sprung up around bunches of feather grass. Scattered among the grass was another sedge with sharp, pointed leaves.
Known to scientists as *Carex moorcroftii*, it was named after the early 19th century British explorer of Western Tibet, William Moorcroft. One quickly learned to spot it, since the sharp tips of the leaves poked like cactus if you sat on it.

A small flower, with yellow petals, related to the rose family was common among the grasses and sedges. This little flowering herb, *Potentilla bifurca*, is high in protein content and was the plant that the gazelle were seeking. On the northern plains of Tibet, small mammals like gazelle prefer these little forbs. Larger animals, like wild ass, will graze almost exclusively on grasses and sedges. The diets of domestic sheep and goats often overlap with those of the smaller wild animals like gazelle. To the untrained eye that is unable to distinguish one plant from another, rangelands can appear boring, especially in Tibet and the Himalaya, where the mountains often dominate the landscape. But it is the diversity in plant species and mix of plant communities on the rangelands that influences the behavior of wildlife and the grazing patterns of domestic animals.

I once learned about the foraging behavior of nomads’ sheep in an interesting manner. While doing research among the nomads in the Chang Tang, my colleagues and I were brought bags of dried dung, mainly sheep and goat feces, as fuel for us to cook with. As we sat around the fire in our canvas, Tibetan-style tent, I detected the faint smell of garlic and could not fathom where it was coming from as we had not brought any garlic with us. A couple of days later, while walking with some nomads from one camp to another, they suddenly stopped along the trail and started digging in the ground with their knives. Looking closer, I saw they were digging up wild garlic which had just emerged with fresh, green shoots. The nomads explained that they were collecting the plants to take back home and use in cooking or to dry and later use as a spice. One nomad told me that the sheep and goats also prefer this plant. Suddenly, it all made sense. The garlic smell we had noticed sitting around the fire in our tent was coming from the dried sheep dung! The sheep and goats ate this wild garlic and the undigested plant material passed out in their feces which, when burned, gave off the unmistakable odor.

The Tibetan antelope, perhaps more than any other animal, embodies the vastness of the Tibetan Plateau ecosystem. Like wildebeest in Africa and caribou in Alaska, the Tibetan antelope is a migratory creature and needs a vast landscape in which to roam. Herds of antelope cover distances of up to 400 kilometers, across the plains and over the mountains, on their seasonal migrations. In the past, nomads tracked the antelope, laying snares in the ground to trap it and hiding patiently in defiles along its paths to shoot it with their muzzleloaders. Antelope meat supplemented the nomads’ diets and its fine wool, known as *shatoosh*, was sold or traded. The long, lyre-like horns were used as gun rests and for tent pegs. Hunting by the nomads in the era before modern rifles were introduced was sustainable as the number of antelope they could kill with their snares and muzzleloading guns was limited. The antelope was once widespread throughout much of the pastoral area in Western Tibet; but in recent decades it has been heavily hunted by poachers for its valuable underwool. The huge reduction in the number of great antelope populations not only threatens biodiversity but also the nomads’ indigenous knowledge of this remarkable animal.

If antelope embodies the vastness, the wild yak characterizes the wild nature of the Tibetan landscape. Standing six feet at the shoulder with massive horns, a wild yak bull is a magnificent animal;
the long, black hair on its belly and flanks almost sweeps the ground. No other animal so evokes the raw energy and sublime grandeur of Tibet. The wild yak is a totem animal of the Tibetan wilderness and it long ago received mythic status among Tibetans. For nomads, the hunting of wild yaks signified bravery and there are many epic tales of these hunts. Wild yak skulls are found on shrines at mountain passes and on house roofs testifying to their significance in Tibetan culture. Their horns, up to a meter long, are still used as milk pails by the nomads. Unfortunately, wild yaks are now only found in remote regions, far from the poachers’ guns.

Wild yak skull in the Chang Tang Wildlife Reserve, Tibet.

Galloping across the steppes, their russet and cream-colored bodies contrasting with the golden hue of the grasslands, Tibetan wild ass, or *kiang*, suggest a sense of unbridled freedom. The remote, northwestern part of the Tibetan Plateau offer notable examples of rangeland ecosystems relatively unchanged by humans and provide the untrammelled space for large herds of *kiang*. This northern plain, or *chang tang* as it is termed in Tibetan, also provides the last refuge for wild yak and Tibetan antelope and many other rare and endangered animals.

The Tibetan pastoral area is a complex environment and functions in a very dynamic manner. Over much of the region there is considerable variation in forage production from one year to another, because of different precipitation patterns. There may even be remarkable differences in grass growth in a small geographic area within one year, due to local climatic patterns. Droughts that wither the grass occur frequently. Severe winter blizzards can bury forage for livestock under snow, often resulting in large livestock losses. Droughts and severe snowstorms add considerable uncertainty to the nature of the environment, making nomadic livestock production a high-risk enterprise. And yet, the grazing lands have supported nomads and their livestock for thousands of years. This signifies an ecosystem that is remarkably resilient. The rangelands can be subjected to heavy grazing by livestock and recover again as long as livestock numbers are not excessive.

The lives of the nomads and animals, both wild and domestic, are tuned to the growth of the grass and the rhythms of the grazing lands. These fields of grass provide the theatre in which nomads and their animals interact to create a unique pastoral culture. It is a remarkable, little-known way of life, which is thousands of years old.

**Herds on the Move**

*M*obility is a central characteristic of Tibetan nomadic pastoralism. Livestock management practices are designed around the movement of herds to various pastures during different seasons of the year and the tracking of favorable grazing conditions. Livestock are regularly moved between pastures to maintain rangeland condition and animal productivity. Nomads do not move randomly across the rangelands; rather, the movements of their herds are usually well prescribed by complex social organizations and are often highly regulated. Herd movements also take
advantage of topography and climatic factors to make the best use of pastures at different seasons.

The yak, an exceptional animal superbly adapted to the high altitude, cold environment of the Tibetan Plateau and Himalaya, characterizes Tibetan nomadic pastoralism. Tibetans place so much value on it that the Tibetan term for yaks, nor, can be translated as “wealth”. Yaks provide nomads with milk, meat, hair, wool and hides. They are also used as pack animals and for riding. Dried yak dung is an important source of fuel in an environment where firewood is not available. Without the yak it is doubtful if man could live as well as he does in the high altitude pastoral areas. The yak makes life possible for the nomads.

In addition to yaks and yak-cattle hybrids, nomads raise goats, sheep and horses. Sheep and goats are common in western Tibet and Ladakh where the environment is more arid and better suited to the raising of these animals instead of yaks. Tibetan goats are famous for the fine cashmere they produce; this is used for making expensive shawls that are woven in Kashmir. Goats are also milked by the nomads and produce milk for a longer period of time than sheep.

But sheep are also an important animal for the nomads. Although the yak characterizes Tibetan nomadic pastoralism, sheep are often more important economically. Sheep provide wool, meat and hides and, in some areas, are also milked. Among nomads, sheep meat is the most preferred. The wool from Tibetan sheep ranks among the best carpet wools of the world; it is highly prized for its great elasticity, deep luster, and outstanding tensile strength. The fibers of Tibetan sheep wool have an exceptionally smooth surface that reflects extra light, making them more lustrous than wool from other breeds. These factors help give Tibetan carpets their unique characteristics -- the subtle, shaded abrash, supple resiliency and potentially radiant patina.

Nomads use horses for riding and transporting supplies, but do not milk nor eat them. The grazing lands of Amdo in northeast Tibet have long been renowned for producing good horses. This area is also the home of the legendary Golok tribes, excellent horsemen descended from ancestral nomads who considered it bad manners to walk even when exchanging greetings between one tent and another. Although horses play only a minor economic role in Tibetan nomads’ lives, and their numbers are never anywhere near as large as those found among nomads in Mongolia, horses do help to create special attitudes and values among Tibetan nomads. Horsemanship is a highly regarded skill and throughout the Tibetan pastoral area, horse races and various contests are held that test both the horsemen’s skills and the horses’ performance.

The nomads raise a mix of different livestock species; each has its own specific characteristics and adaptations to the environment. The multi-species grazing system -- the raising of
yaks, sheep, goats and horses together – maximizes the use of rangeland vegetation. Different animals have varied uses and provide diversified products for home consumption or sale. In terms of livestock species’ mix and herd structure, the Tibetan pastoral system exhibits sophisticated adaptive responses by the nomads to the environment. This nomadic pastoralism evolved as a rational adaptation to the spatial and temporal differences in rangeland vegetation. It also took into account the unpredictability of droughts and frequent snowstorms. This is why movement of the herds was so important.

Social arrangements with nearby nomads, monasteries and farming communities are common. This enables nomads to gain access to additional resources or assistance during times of stress. To earn cash income, nomads also collect medicinal plants, when they can be found. Although not as important now, hunting was a strategy employed by nomads to supplement livestock production. All of these practices aim to minimize risk, stabilize livestock production, diversify food sources, increase income and to maximize returns for labor put in by all the household members. This makes sense in an environment that can be very unforgiving.

Nomads’ keen knowledge of the environment was revealed to me while working with them in Phala in the southern part of the Chang Tang. The nomads had their main camp in a small, protected valley a couple of kilometers from Mun Tso, a small lake. They had recently constructed small houses to stay in during the winter on the south-facing slopes at the edge of the mountain. One day, while walking along the shores of the lake, I came across what I thought was the late winter lambing camp. Here, pits had been dug which were obviously sites where the nomads pitched their yak-hair tents. Nearby were small corrals made of rocks, which must have been for sheep and goats, judging from the amount of dung in them. Next to the tent site were small, round, beehive-like stone structures that newborn lambs are put in to protect them from the cold. Why on earth would nomads camp here in March and April, at a time when the winds must whip like crazy across the lake and blow right into the camp?

In the evening when I returned to the main camp, I asked some of the nomads why they camped next to the lake during the lambing season as it must be a very windy and exposed site. “Yes, of course the wind blows down there at that time of year,” a nomad replied. “But, the wind also blows any snow off the slopes of the nearby mountain so there is always grass available for the sheep, even when there is deep snow here in this protected valley. During the day, the sheep are always out grazing on the mountain, where it is not so windy and at night the winds die down,” he explained to me. Sometimes, what may appear as idiotic to a stranger makes perfect sense when you have as intimate an understanding of the environment as nomads do.

In addition to taking care of animals, Tibetan nomads developed specialized skills in spinning and weaving. Since the first nomads ventured onto the Tibetan plateau and began raising sheep and yaks, their very existence has depended on spinning and weaving skills. Nomads learned to fashion highly functional tents, clothing, blankets, ropes, pack bags and saddle blankets from the
wool and hair of their animals. These weaving talents continue in an intact legacy even now. Although nomads do not make knotted pile carpets, they do use them, especially on their horses. Horse blankets and saddle carpets, with varied designs are in common usage by the nomads. Today, nomad men spin sheep and yak wool and yak hair. Women weave wool into fabric for tents, blankets, bags and clothing. Men braid ropes and slingshots. These items are still used in everyday nomadic life. Even a ten year old nomad kid can use a slingshot with assurance, hitting a yak on the backside from a hundred meters away.

Since ancient times, weaving techniques moved along the Tibetan frontier linking cultures and weavers. Over time, various ethnic influences and trends were absorbed by Tibetans and incorporated into the formation of their own unique aesthetic styles. As my late friend and carpet expert, Ted Worcester so eloquently noted, “Carpet weaving in Tibet was essentially a folk art; in the sense that it was not accorded the seriousness of purpose as were such religious arts as painting or sculpture, but there is more to it than that. The designs did have a purpose and function and there was, and is, a design tradition. What was generally not known is that the tradition was so vast. The carpets were for the most part intended for utility, comfort and decoration. But this practical end was enhanced with a special vision. Carpets were a medium on which to play; motifs were created, combined, and recombined in literally tens of thousands of unique and refreshing design conceptions. In fact, with a relatively small population (but covering a vast area), Tibetan carpet making may turn out to have been one of the most prolific indigenous design traditions in the world.”

Yak hair tents are a prime example of nomads’ skill in adapting to a nomadic life on the windswept Tibetan steppe. Made from the long, coarse hair of the yak, tents can be easily taken down and packed on yaks when moving camp. They keep out the rain, yet let in light. Sections of the tent that become old and frayed can be easily replaced with new strips of woven yak hair. Staked out with yak hair ropes, tents have been perfected to stand up in the fierce winds that blow across the Tibetan plains.

Almost all nomads have a home base, usually a traditional winter area, and they make established moves with their livestock from this to distant pastures throughout the year. The traditional yak-hair tent is still in common use but now many nomads spend an increasing amount of time, especially in the winter, in houses which have been constructed in the last couple of decades across most of the Tibetan pastoral area.

Trade and links with agricultural communities at lower elevations were important features of nomadic societies in the Himalaya and on the Tibetan Plateau. Although not as important now with the advent of roads, railroads and airplanes, trade was a critical element in the nomadic pastoral economy as nomads depended on bartering their livestock products for grain and other supplies they could not produce themselves. Similarly, agricultural communities and urban areas relied on nomads for livestock products. In much of the Himalayan region, trade was based on the exchange of grain for salt and wool in Tibet. In the eastern Tibetan grasslands, a lively tea for horse trade developed during the Chinese Tang Dynasty (618-907 AD) with Tibet supplying horses to the Tang court in exchange for Chinese tea. Prior to World War II, wool was a major export item to the United States; it was used for making seat covers for cars in the automobile industry. Yak tails
were also prized for Santa Claus beards. This movement of goods also facilitated the flow of ideas and exposed even remote nomads to a larger world view.

Nomads’ far-reaching outlook is apparent in their grasp of geography even among older, illiterate members of the community. Since many nomads have traveled widely across the Tibetan Plateau on pilgrimages or on expeditions to obtain salt from distant lakes, their knowledge of the landscape is remarkable. While working with nomads in the Phala region in Tibet, I had brought with me NASA astronaut photos taken from 300 km up in space that showed much of the area. Once they realized what the photo was, they could easily pick out the location of the camp we were in from the outline of lakes and mountains on the photograph. They could also identify distant lakes to which they had traveled for salt and recognize other important features such as mountains and lakes, where they had gone on pilgrimage. They were even able to point out specific camp sites along their routes on the astronaut photo.

Tibetan nomads live on the cutting-edge of life. They deal, on a daily basis, with the raw elements of a harsh environment while they go about their rigorous lives with incredible poise. They are men and women who can still start a fire with a flint and steel. Both men and women, and even children, are extremely adept at handling large animals, which can often be very unruly. Nomads possess a great body of knowledge about the environment in which they live and the animals they raise for a living. Local climatic patterns and key grazing areas are recognized, allowing herdsmen to select favorable camp sites and winter ranges that provide protection from storms. Plants that have special nutritive value are recognized; other herbs are known for their medicinal properties or as plants to be avoided for their poison. A nomad can immediately tell if a yak or sheep is sick because he intimately understands their behavior. He has spent his entire life watching over his herds and flocks and the grass that nurtures them and he is acutely observant. His life and those of his animals depends on his close scrutiny and understanding of the environment.

The survival of nomads on the Tibetan Plateau and in the Himalaya provides examples of nomadic practices that were once widespread throughout the world, but are now increasingly rare. Their existence today is proof of the rationality and efficacy of many aspects of traditional pastoral production. Over thousands of years, nomads accommodated to their environment, learning to live with what it offered instead of changing and molding the landscape to suit their needs, as farmers try to do. Thus, nomads have much to teach us.
Sacred Spaces

The sublime beauty of the Tibetan landscape has inspired reverence for the environment among the nomads for centuries. Throughout the pastoral areas, nomads adhere to traditional beliefs that give special significance to certain physical aspects of the landscape. These convictions have imbued mountains with divine qualities. In this realm of sacred geography, Mount Kailash is the most famous holy mountain. Other important holy mountains include Nangchen Thangla and Targo Rinpoche in Central Tibet, Amnye Machen in Amdo and Kawa Karpo in Kham. These sacred mountains are viewed by the nomads as the abode of gods or deities and are worshipped accordingly.

Associated with these holy mountains are sacred lakes that have a feminine aspect in contrast to the male nature of the mountains. Lake Manasarovar is paired with Mount Kailash; the lake, Namtsø is linked with Nangchen Thangla and Dangra Yumtso is paired with the mountain, Targo Rinpoche. The deities ascribed to these sacred mountains and their consorts identified with the lakes are viewed as ruling over the landscape with the power to protect the nomads and their livestock. As providers and protectors of health and good fortune, these deities have the power to be auspicious and benevolent when the people residing in the area act appropriately, but they can also be malevolent. Nomads believe that if the mountain god becomes angry, he can unleash hail, snowstorms or livestock epidemics as retribution for bad behavior.

Mountain gods and deities of the lakes are constantly placated by the nomads. Burning incense, usually juniper branches, is an important part of the rituals performed by nomads to appease the mountain gods. Prayers are also offered to the gods, extolling their power and virtues and prayer flags are attached to cairns on mountain passes to invoke good fortune. Like other Tibetans, nomads frequently go on pilgrimage to circumambulate holy mountains and lakes. Some years are more auspicious than others for making pilgrimages. For example, a pilgrimage to Mount Kailash in the Year of the Horse is equivalent to making thirteen circumambulations in any other year. For the holy lake, Namtsö, the Year of the Sheep is the best time to go on pilgrimage.

Nomads also believe in other divine beings or native spirits; these dominate the soil and habitats connected with the earth and are known in Tibetan as sa bdag, or Lords of the Earth. Others, known as klu, rule over water habitats such as rivers and lakes (similar to the nagas in Hindu mythology). If offended, these spirits can wreak vengeance by provoking disease. The fireplace, or hearth, in a nomad tent is especially sacred. Contamination of the hearth by spilled milk or burning animal flesh can be displeasing to the Lords of the Earth. If milk boils over into the fire, a nomad will quickly put some juniper branches onto the fire to appease the spirits. Many of these beliefs and rituals are derived from the aboriginal, ‘folk’ religion of Tibet that predated Buddhism. Nomads believe that a person’s life force is connected with a locality and the spirits
that dwell there and that a deterioration of this bond can have negative repercussions.

I myself have had some encounters with spirits in the Himalaya! One summer when working in the Langtang Valley of Nepal, I came down with a fever after swimming in a glacial-fed river. The yak herders put me up to it after we had waded across a wide, fairly shallow stretch of the river while returning from collecting firewood. Although the river was ice-cold, it was a beautiful summer day and the air temperature was hot. “Hey! Miller why don’t you show us how you can swim?” one yak herder asked. Soon others joined in, goading me on. So, I went upstream a couple hundred meters, took off all my clothes and dove in. The rushing current carried me downstream, but I still had to swim to get to the far side. When I crawled out, I was numb from the cold water and danced around to warm up. I then ran back upstream so that when I reached the other shore I would come out at the place where the yak herders were waiting with their loads of firewood.

As I emerged from the river, the yak herders were laughing like crazy. It was probably the first time they had ever seen a white man naked because when we had crossed the river before, linked arm-in-arm against the strong current, we kept our shorts or pants on. Now I was running around with no clothes, jumping up and down, trying to warm up from my plunge in the cold river.

After a few days, the fever grew worse and one evening, when the fever spiked and I became so delirious that I could no longer read the thermometer, I lost consciousness. The yak herders I was staying with became very alarmed and went to see the Tibetan reincarnate lama residing in a nearby temple. When they explained to him what had happened to me, the lama said he was unable to do anything since I had angered the klu, the spirit of the water; the yak herders would need to seek the assistance of the local shaman to exorcise the angry spirit that had taken control of my body. In the middle of the night, fearful that I might die, the yak herders summoned the shaman to come and perform the necessary rituals.

In the early morning, as light filtered through the simple shed I was sleeping in, I woke startled from a dream. In the dream, I had died and the village shaman, complete with feather headdress and small bells draped across his shoulders and beating on a drum, was performing a ceremony over my dead body. For a moment, as I lay there observing the shaman, with a whole group of yak herders crowded into the small shed, I wondered if I was still dreaming or actually awake. One person, noticing that I was now awake and a bit startled to see the shaman, came over and explained what had happened: I had offended the klu in the river; this had made me sick and they had brought the shaman to appease the angry spirit. “Look,” he said, “the shaman was successful in chasing out the evil spirit. The fever has gone away and you’ve regained consciousness. We were really scared you might die.”

Later that afternoon, when I washed my face and saw that the whites of my eyes had turned yellow, I suspected I had come down with hepatitis. When I tried to explain to the yak herders that I must have contracted this sickness called hepatitis and that was what had caused the fever and delirium, they were not convinced. “Well, it was your swimming in the river naked that angered the klu and brought this sickness on,” one said. “How else would somebody as strong and healthy as you get so sick so fast?” “It was only after we brought the shaman and towards the end of his ceremony that you regained consciousness,” said another with an air of authority. I suddenly realized there was a whole other world out there in the valley of the yak herders that I knew very little about. But one thing was certain; I never again went into the river naked.

A couple of years later, I was traveling with a yak caravan in Dolpo, Nepal. After crossing a small bridge over a stream, I stopped alongside the trail to watch the yaks go past. When the last yak had crossed, the nomad with whom I was traveling broke a thorn bush branch and placed it at the end of the bridge. “That is to catch any evil spirits that may be following us,” I knew what he was talking about since the klu had caught me once. After the nomad walked on with the yaks, I found a big thorn branch with
really long thorns and put it on the end of the bridge with a big rock to keep it there for a while. Then I hurried after the yak caravan going up the trail, occasionally glancing back at the bridge.

When Padmasambhava introduced Buddhism to Tibet in the 7th century, he incorporated into the new Buddhist doctrine many of the older folk beliefs and teachings of the Bon religion of Tibet that was practiced before his arrival. The landscape of the Tibetan Plateau and the Himalaya and the original folk convictions had molded the inhabitants’ sensitivities in a way that was conducive to Buddhist beliefs -- the idea of rebirth was one such. The belief in karma served to influence one’s moral behavior. Even today the nomads’ beliefs condition their actions.

The Tibetan tradition of hidden valleys (beyul) is traced back to Padmasambhava who, foreseeing future periods of chaos, established a number of sacred sites where people could seek refuge in times of trouble. These ‘hidden valleys’ are scattered throughout the Himalaya and Tibet. The Langtang Valley, where I first worked with yak herders, is one of these valleys; it is known in Tibetan as Nam Go Da Gam, or the Heavenly Gate of Half-Moon Form. Here, yak herders showed me holy sites where the footprints of Padmasambhava can be seen in rocks and took me to caves in which he is believed to have meditated.

Throughout the Tibetan Plateau and Himalaya, Tibetans build stupas or chortens, as they are known in the Tibetan language, to transform a site into a sacred place. A monument of stone, constructed according to a precise design, a stupa’s original purpose was as a reliquary, enshrining the bones of important spiritual teachers. With shapes representing the five primary elements – earth, fire, water, air, and space -- stupas have come to symbolize the omnipresence of enlightenment or the Buddha-mind. In many areas, eight stupas are constructed in a row, with the design of each one slightly different, commemorating the eight major events in Buddha’s life. As such, stupas, wherever they are found, bring peace to the surrounding area and good health and long-life to local inhabitants; they transmit a sense of the sacred to the entire landscape.

Winds of Change

In recent decades, many changes have taken place that are transforming traditional rangeland use and the lives of the nomads. Nomads have always been confronted with events that change their lives – droughts that wither grass, winter storms and livestock epidemics that wipe out herds, and tribal wars that displace people and their animals. However the changes they are facing today are more profound and likely to have more significant, long-term implications on their way of life and the ecosystems in which they reside, than any previous changes.

These changes include the modernization process itself; with the increase in human population and a rise in peoples’ incomes, this has increased the demand for livestock products and corresponding plans to improve livestock production. In some places, the growing
human population has brought increasing pressure from farmers who have inappropriately extended cultivation onto marginal rangeland. There has been disruption in traditional trade networks, requiring nomads to seek new arrangements for selling or bartering their livestock products. Policies to settle nomads and privatize and fence individual pastures restrict herd movements and, in some areas, has led to violent conflicts over access to grazing land. Extension of the protected area system, while necessary to protect wildlife, prohibits hunting and limits movement and expansion in the nomads’ livestock herds. Renowned for their independence, in recent times nomads have experienced processes that pull them into never before encountered aspects of the modern world. In many cases, these changes have altered the previous, often stable relationships between the nomads and the environment. Modernization and development in the Tibetan pastoral region places increased emphasis on the economics of livestock production. For example, nomads in China are often advised by officials that horses are not productive assets and their numbers should be reduced in order to raise more sheep or yaks. However, nomadic pastoral production is a way of life and cannot simply be thought of in terms of maximizing livestock numbers. There are certain cultural characteristics and value systems that shape who nomads are; these also need to be recognized when organizing development in the pastoral areas. A proud Khampa nomad once told me, “How can they tell us not to keep horses? We’re Khampas. We ride horses. Always have, always will.”

For thousands of years, the Han Chinese have never shown much patience for nomads nor an interest to understand them. The Han considered their country the Middle Kingdom, around which the world revolved and nomads were viewed as uncivilized. The Great Wall of China was built 2,000 years ago to defend against raids of nomads galloping out of the steppes. Nomads were feared and considered barbarians for wearing the skins of animals instead of silks. This mindset appears to continue to the present day, in official policies to settle nomads. Beginning first in Inner Mongolia, where the Mongol nomads were settled, and extending into Xinjiang among Kazak nomads, programs to settle Tibetan nomads first began in Qinghai Province in the 1990s. Now nomads are being forcibly settled in many areas of the Tibetan pastoral area. Often expressed as a means to bring modern development to nomads and to protect the environment, there is undoubtedly an element of political control to the policies as well. As one old nomad explained, “We have been raising sheep here for centuries. We nomads know how to raise sheep in these mountains. The only animals the Han Chinese know how to raise are pigs. Now they want us to raise sheep like they do pigs. Keep them in a shed and just feed them grain.”

The Chinese policy of settling nomads goes against state-of-the-art information and analyses for livestock production in pastoral areas. This body of scientific knowledge champions the mobility of
herds as a way to sustain the grazing lands and nomads’ livelihoods. Decades of experience with livestock development in other pastoral areas of the world and considerable recent research in Asia, including Tibetan areas, all lead to the conclusion that settling nomads is not appropriate. Livestock mobility should be encouraged instead of eliminated and nomads should be empowered to manage their own rangelands. Besides, settling nomads will erode their unique body of ecological knowledge of the grazing lands and how best to utilize them. Much of this in-depth understanding of the land can never be learned from a textbook or in a classroom. It can only be attained from years of being out in the grasslands in all kinds of weather throughout all the seasons. Who will pass this indigenous knowledge of the landscape on to the next generation if nomads are settled in towns?

In many countries as the rural economy develops, many farmers leave the land and move to cities to find other jobs. Farmers that remain in the countryside may expand their operations, growing more crops and raising more livestock. Unfortunately, in the Tibetan areas of China, nomads have a difficult time finding employment in the towns and cities as most of the jobs are taken by migrant Chinese laborers. Nomads that move to towns often end up being further marginalized. The issue now is how can these nomads re-enter livestock production, or how can viable non-livestock rearing jobs be created for those earlier engaged in pastoralism.

While modernization has created many new problems for nomads, it has also brought some improvements in their lives and opened doors for new opportunities. Most nomad families now have greatly improved standards of living with better access to health care, veterinary services, education for their children and market outlets for their livestock products. Nomads throughout the pastoral area of the Tibetan Plateau, who until a few years ago still lived in tents the year-round, now have houses and sheds for their animals, although most herders continue to use tents for part of the year. Roads and trucks make it easier for nomads to go on pilgrimages.

Despite these changes, nomads continue to maintain their cultural heritage in many areas, especially noticeable during summer celebrations where horse and yak races are featured. At these events, nomadic splendor is on full display, heralding the richness and hospitality of nomadic culture. Horse races among nomads are popular in the town of Litang in Kham, in Hongyuan in Amdo and in Nakchu in Tibet.

Nomads face many challenges adjusting to the modernization process that is sweeping the rangelands. They have, however, prevailed under forbidding circumstances ever since they first ventured onto the Tibetan Plateau with their animals thousands of years ago. They have learned how to adapt. Since much of the Tibetan pastoral area is only suitable for grazing, nomads may continue to thrive in the future even as increased numbers of them settle and pursue other employment opportunities. Livestock herd structures and movement patterns will undoubtedly change in many areas in the future, but, as long as the basic tenet of herd mobility for livestock production in pastoral areas is upheld, there is no
reason why the best aspects of traditional nomadic pastoralism cannot be maintained.

**Moving Forward**

The Tibetan Plateau and Himalaya are landscapes that exhilarate every sense. The magnificence of the mountains and the grandeur of rangelands stretching to the horizon are boundless. It is a land so full of energy that your senses come alive. The wind, whipping across the steppes, cleanses and removes the coverings we bring from the modern world, ones that disconnect us from nature’s elements.

It is a land that stimulates your senses. Your eyes focus on the radiant colors of tiny flowers and on grass seeds shimmering in sunlight at your feet. Your vision expands to take in the playful dance of cloud shadows drifting across a valley; a dust haze in the distance can turn out to be a herd of galloping wild ass. Your ears pick up calls of birds and you begin to detect changes in the tune of the wind. Even your sense of smell is sharpened as you discern faint aromas: dwarf sagebrush plants wafting bouquets of sweet perfume as they are trodden underfoot or the smell of an approaching rain shower.

This is territory that challenges you. The land demands alertness. Here, your very survival requires you to be aware of your surroundings -- to observe, to listen and to learn. Simply taking notice of storm clouds brewing over the mountains may mean the difference between making it back to camp in the evening or not. Creeping up on a herd of wild yaks, it is important to always remember which way the wind is blowing. This acute awareness comes naturally to the nomads. Buddhism counsels you to be aware of the present. Living in the present can come easily when you are among Tibetan nomads.

Managing the environment of the Tibetan pastoral area is both a science and an art. Management attempts to enhance returns from the natural resources in ways that are desired by the nomads, by other people who make use of the land and by society in general through the appropriate use of the rangeland ecosystem. Proper management of the pastoral area combines practices from the physical, biological and social sciences. Knowledge of physical science is necessary since climate, topography, soil and water affect the ecosystem. Biological science is required since management of the grazing lands deals with plants and the response of both the wild and domestic animals that graze upon the plants. Those interested in taking care of the Tibetan pastoral area also require social science skills since the desires and needs of the nomads determine how they use the grazing lands.

Scientific knowledge and technical skills are vital to managing the Tibetan grazing lands, but range management, biodiversity conservation and pastoral development is more than just science: it is also an art. The scientific information and indigenous knowledge of the nomads needs to be synthesized and fabricated into practical plans for conservation and development. Creating such plans requires the talent and perception to detect changes in rangeland vegetation and wildlife, to understand the changes in livestock use that have taken place in the past and how
different practices by the nomads are affecting the rangelands now. It requires the uncommon ability to fashion plans for current use by the nomads and for demands that may arise in the future. This feel for the landscape, this reading of the environment, can only be achieved by spending considerable time in the pastoral areas looking and listening. Harkening to the wind, to the cry of a hawk and the whistle of a marmot is as important as listening to what the nomads have to say.

In areas of the northeastern Tibetan Plateau where yaks predominate, the future may well see nomads raising yaks in the way beef cattle are reared on the large cattle ranches of North America. The yak cows would not be milked; the yak calves would consume all their mother’s milk and would be weaned in the fall and sent to feedlots in agricultural communities on the edge of the pastoral area. The yaks, ideally a large, combined herd from a number of families, would graze over a large area in prescribed movements, looked after by only one family or a number of young men, freeing up other nomads for alternative employment. Nomads would maintain improved yak-cattle hybrids (dzomo) around the house for milk; four or five good dzomo, if well fed, could produce as much milk as 20 yaks. Hay would be raised to supplement grazing by yaks in the winter. With better feed, the female yaks would be more productive, giving birth to a calf every year instead of every other year as they usually do now. Horses, used for herding the yaks, would be of more importance too, maintaining nomads’ historical riding prowess and culturally valued skills. There are opportunities to build on the nomads’ heritage and knowledge when advocating development in the pastoral areas as long as the nomads’ desires and needs are considered along with an understanding of the ecology of the land and a vision for the future.

The remarkable rangelands of the Tibetan Plateau and Himalaya will experience a great and tragic emptiness if the environment is allowed to deteriorate or if, in the name of ‘modern development’, nomads are forced to settle down. The unique Tibetan pastoral culture will be transformed beyond recognition and nomads will lose their singular identity. The wildlife – grand, moving masses of migratory antelope, herds of magnificent wild yak, and graceful Tibetan gazelle bounding across the rangeland – will only be found in photographs of explorers’ accounts or in the stories told by older nomads to their children. These consequences can be avoided if timely action is taken to acknowledge the special attributes of the Tibetan pastoral ecosystem. This requires serious evaluation of the rangelands, increased understanding of the nomadic pastoral system, greater appreciation for the nomads and their worldview and a rethinking of many current development policies. These actions are crucial for ensuring the survival of nomads and their way of life in the face of growing threats from modernization.

We can learn a lot from Tibetan nomads. Their lifestyle is more basic, yet wholesome. Raising animals on the grasslands, their life is geared to the seasons. They follow a calendar according to the phases of the moon, well aware of how many days before the next full moon. They are tough enough to live in a yak-hair tent in the winter, yet are incredibly gentle when caring for newborn lambs. Nomads may have little understanding of the latest information
technology, but they are highly skilled in handling rambunctious animals like yaks. Courageous when confronted with danger, Tibetan nomads exhibit amazing hospitality to strangers who enter their tents. They may be Buddhist but they still believe in spirits that inhabit the earth and gods that rule from mountaintops, which they revere and respect. Many of these values are admirable and provide the moral fiber from which heroes sometimes arise.

We need heroes in our lives: brave, courageous men and women who, through their valor or noble character, become legendary and inspire us. In Tibetan culture, some of the greatest heroes have come from nomad backgrounds. The exploits of King Gesar in the 11th Century are well known throughout Tibet and even into Mongolia. Banished to the wilderness at a young age by a mean uncle, he cared for his mother, hunted wild yaks and trained his horses. Returning home years later, he won a horse race and regained the right to rule his family’s kingdom. Gesar fought many battles with enemy forces, upholding freedom over suppression. Even today among contemporary Tibetans, Gesar is used as a model of moral virtue.

It was the nomad way of life that so well prepared people like Gesar for their uncommon valor on the battlefield. Horseback skills, marksmanship, toughness and courage were all developed at a young age in nomad camps. Even many of the famous Sherpas from the Mount Everest region of Nepal began their climbing careers by herding yaks.

Nomad children today hold the key to future wise use of the rangelands and continuance of the nomadic way of life. Their education and health is critical. They must learn new skills for handling animals and acquire the knowledge and expertise that will allow them to continue to use the rangelands with dignity.

As long as nomads, imbued with a sense of the sacredness of the landscape, are allowed to move in harmony with their animals across the grazing lands of the Tibetan Plateau and Himalaya, there is hope for the future. If we help enable this to happen, young nomads will have heroes they can identify with and the world will be a better place for all of us.